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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,189	09/30/2003	Lawrence D. Radosevich	03AB107/YOD ALBR:0127	5059

7590 09/21/2007

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EXAMINER	
LEE, JINHEE J	

ART UNIT	PAPER NUMBER
2174	

MAIL DATE	DELIVERY MODE
09/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/675,189	RADOSEVICH ET AL.	
	Examiner	Art Unit	
	Jinhee J. Lee	2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/21/07*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 31-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13, 31-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *allowable subject matter*.

DETAILED ACTION

Election/Restrictions

Claim Objections

1. Claims 31, 36 and 41 are objected to because of the following informalities:

Claim 31 line 12, claim 36 lines 15, claim 41 line 15; the phrase "wherein the first and second bus elements" has an error. Examiner suggests "wherein the first and second conductive bus elements" instead to avoid insufficient antecedent rejection.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith (6008982).

Re claim 1, Smith discloses an electrical bus system comprising:

a first conductive bus element (of 20 or 21 for example) defining a first electrical reference plane extending substantially contiguously between a terminal for a first conductor coupled directly to power electronic switching circuitry and terminals for an energy storage or filtering circuit;

a second conductive bus element (of 20 or 21 for example) defining a second electrical reference plane extending substantially contiguously between the terminals for

a second conductor coupled directly to the power electronic switching circuitry and the terminals for the energy storage or filtering circuit;

at least one insulative layer (28 for example) disposed intermediate the first and second bus elements to electrically isolate the elements from one another;

wherein the first and second bus elements extend generally in parallel between the respective terminals to reduce parasitic inductance during operation (see figures 1 and 2 for example).

Re claim 2, Smith discloses an electrical bus system, wherein the bus elements and the insulative layer form a laminate structure (see figures 2 and 4 for example).

Re claim 3, Smith discloses an electrical bus system, further comprising at least one additional insulative layer (26 for example) disposed adjacent to the first or the second bus element for electrically isolating the bus element from adjacent components.

Re claim 4, Smith discloses an electrical bus system, wherein the first bus element and the insulative layer include recesses (42,44 for example) for accessing connection areas of the second bus element.

Re claim 5, Smith discloses an electrical bus system, wherein the first and second bus elements include integral connection areas for electrically coupling the bus system to power electronic switching circuitry for three phases of ac power (see figure 1).

Re claim 6, Smith discloses an electrical bus system comprising:

a first conductive bus element defining a first electrical reference plane extending substantially contiguously between a terminal for a first conductor coupled directly to power electronic switching circuitry and terminals for an energy storage or filtering circuit;

a second conductive bus element defining a second electrical reference plane extending substantially contiguously between a terminal for a second conductor coupled directly to the power electronic switching circuitry and the terminals for the energy storage or filtering circuit;

an inner insulative layer (28 for example) disposed intermediate the first and second bus elements to electrically isolate the elements from one another; and

first and second outer insulative layers (26 and another 26 or 28 for example) disposed adjacent to the first and second bus elements, respectively, opposite the inner insulative layer, to electrically isolate the elements from other components;

wherein the first and second bus elements extend generally in parallel between the respective terminals to reduce parasitic inductance during operation (see figures 1 and 2).

Re claim 7, Smith discloses an electrical bus system, wherein the bus elements and the insulative layers are contoured to conform to at least one support on which the power electronic switching circuitry and energy storage or filtering circuit are mounted(see figure 1 for example).

Re claim 8, Smith discloses an electrical bus system, wherein the bus elements and the insulative layers form a laminate structure (see figures 2 and 4 for example).

Re claim 9, Smith discloses an electrical bus system, wherein the first bus element and the insulative layers include recesses (42,44 for example) for accessing connection areas of the second bus element.

Re claim 10, Smith discloses an electrical bus system, wherein the first and second bus elements include integral connection areas for electrically coupling the bus system to power electronic switching circuitry for three phases of ac power (see figure 1 for example).

Re claim 11, Smith discloses an electrical bus system comprising:

a first conductive bus element defining a first electrical reference plane extending substantially contiguously between a terminal for a first conductor coupled directly to power electronic switching circuitry and terminals for an energy storage or filtering circuit;

a second conductive bus element defining a second electrical reference plane extending substantially contiguously between a terminal for a second conductor coupled directly to the power electronic switching circuitry and the terminals for the energy storage or filtering circuit;

an inner insulative layer disposed intermediate the first and second bus elements to electrically isolate the elements from one another; and

first and second outer insulative layers disposed adjacent to the first and second bus elements, respectively, opposite the inner insulative layer, to electrically isolate the elements from other components;

wherein the first and second bus elements extend generally in parallel between the respective terminals to reduce parasitic inductance during operation, and wherein the bus elements and the insulative layers form a laminate structure and are contoured to conform to at least one support on which the power electronic switching circuitry and energy storage or filtering circuit are mounted (see figures 1, 2 and 4 for example).

Re claim 12, Smith discloses an electrical bus system, wherein the first bus element and the insulative layers include recesses (42, 44 for example) for accessing connection areas of the second bus element.

Re claim 13, Smith discloses an electrical bus system, wherein the first and second bus elements include integral connection areas for electrically coupling the bus system to power electronic switching circuitry for three phases of ac power (see figure 1 for example).

Response to Arguments

4. Applicant's arguments filed 6/21/07 have been fully considered but they are not persuasive.

In response to applicant's argument that prior art does not teach "to reduce parasitic inductance during operation", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

In response to applicant's arguments that the prior art does not teach "reference planes", examiner disagrees. The prior art teaches of a bus bar on one plane and another bus bar on another plane, these are well able to be called reference planes.

In response to applicant's arguments that the prior art does not teach "substantially contiguously", examiner disagrees. The bus elements are "substantially contiguous" just as the applicant's bus elements are.

Furthermore, the applicant has argued that the prior arts bus elements would not tend to cancel parasitic inductance, if this is such, is an essential structure missing from the claims?

In response to applicant's arguments that the prior art does not teach "bus elements are coupled directly to the power electronic switching circuitry and the terminals for the energy storage or filtering circuit", examiner points out that the claim states that a first or second conductor is directly coupled to the power electronic switching circuitry and the terminals for the energy storage or filtering circuit, not the bus elements. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Allowable Subject Matter

5. Claims 31-43, would be allowable if rewritten to overcome the objections set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

6. Claims 31-43 are allowable.

The following is a statement of reasons for the indication of allowable subject matter:

Re claims 31-40, prior arts do not teach or suggest the combination of an electrical bus system with a first conductive bus element for a first conductor coupled directly to power electronic switching circuitry on a first side of a support and terminal for an energy storage or filtering circuit on a second side of the support; a second conductive bus element; and at least one insulative layer disposed intermediate first and second bus elements; wherein the bus system is disposed along an edge of the support between the first and second sides.

Re claims 41-43, prior arts do not teach or suggest the combination of an electrical bus system with a first conductive bus element for a first conductor coupled directly to power electronic switching circuitry on a first side of a support and terminal for an energy storage or filtering circuit on a second side of the support; a second conductive bus element; and at least one insulative layer disposed intermediate first and second bus elements; wherein the bus elements and the insulative layers form a laminate structure and are contoured to conform along an edge of the support between the first and second sides.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jinhee J. Lee whose telephone number is 571-272-1977. The examiner can normally be reached on M-F at 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid can be reached on 571-272-2100 ext. 74. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jinhee J Lee
Primary Examiner
Art Unit 2174

jjl